

ORAL HEALTH RELATED KNOWLEDGE, ATTITUDE AND PRACTICES AMONG PATIENTS – A STUDY

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ABSTRACT

Objective of this study was to investigate oral health-related knowledge, attitude, and practices of patients visiting Khyber College of Dentistry, Peshawar, Pakistan. Five hundred and thirty patients in the college setting were approached, through second year students of Khyber College of Dentistry and self-reported questionnaires were filled. This study was conducted from September 2008 to August 2009. Response rate was 100%.

Completely filled questionnaires were analyzed. Eighty six percent subjects brushed their teeth, and 12.1% showed twice a day frequency; 30% of male and 21.4% female patients changed brushes after 6 months period. 81.3% had visited a dentist. Only 19.6% patients were smokers.

Rich people were better in their oral health knowledge, attitude, and practices which were associated with education and socio-economic status.

Key words: Socio-economic status, Education, Gender, Oral health and Peshawar

INTRODUCTION

Prevalence and severity of dental disease vary from individual to individual and is affected by age, gender, education and socioeconomic status. Most oral diseases, like most chronic pathologies in general, are directly related to lifestyle. Oral disease can be considered a public health problem due to its high prevalence and significant social impact. Chronic oral disease typically leads to tooth loss, and in some cases has physical, emotional and economic impacts: physical appearance and diet are often worsened, and the patterns of daily life and social relations are often negatively affected. These impacts lead in turn to reduced welfare and quality of life. To minimize these negative impacts of chronic oral disease, there is thus a clear need to reduce harmful oral health habits. Such a reduction can be achieved through appropriate health education programmes.¹⁻³ Tooth decay (dental caries) is a very frequent oral disease. It may be prevented by acting on its basic causes, cariogenic diet and poor oral hygiene. In the last 50 years, the epidemiological profile of dental caries has changed, as

a result of oral health promotion programmes, as well as increased use of fluoridated toothpastes and drinking water, which has been directly related to reductions in caries and tooth extractions.^{1,4} This declining trend is in clear support of the view that dental caries can be reduced by controlling risk factors.

This aspect is a starting point for health promotion campaigns. The affected population needs to receive information on oral diseases, risk factors and measures that can be adopted to prevent them. Such campaigns will typically aim not only to impart knowledge, but also to improve attitudes regarding oral health, and to facilitate the transformation of these attitudes into practice. The change from an unhealthy attitude to a healthy attitude will occur when adequate information, adequate motivation are provided and adequate practice of the measures is adopted by the subject. Information means that the subject has all the data necessary to understand what oral disease is and how it arises, and what protective measures need to be adopted (Knowledge). This knowledge will, in theory, lead to

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changes in attitude, which will in turn lead the subjects to make changes in their daily life. Thus in case of dental caries, the subjects know that incorrect brushing may cause caries, and this information generates a positive attitude towards correct daily brushing and that brings changes in brushing behaviour. The KAP model of behavioural changes is in fact solidly embedded within the traditional focus of health education. It is a model with a positive vision of science, treating the behavioural change as a logical individual decision: the individual can be expected to change an unhealthy habit to a healthy habit in the light of information on the health benefits of that change. This theory considers that individual factors are the principal determinants of disease, biological or behavioural.⁵⁻⁹ However, the model must be considered incomplete in terms of practical application in health education, since it does not take into account the subject's environment and sociocultural context. The critical approach to health education considers that economic, social and cultural factors are the principal determinants of disease. The responsibility for unhealthy behaviour lies with society, not with the individual. Thus educational programmes targeted at the individual, aiming to change an unhealthy conduct, will be a complete failure, if they do not consider the different aspects of the subject's life, both socioeconomic and environmental, that influence their behaviour and are responsible for diverse health problems.^{8,9} In line with this, the most appropriate design for an oral health education programme in a marginal population with a high proportion of school non-attendance will differ from that for a middle-class district with full school attendance and parents with a greater existing knowledge of oral health.

The objectives of this analysis were to describe the oral health knowledge, attitudes, and practices of the patients visiting Khyber College of Dentistry, Peshawar with respect to socio-economic status and education. This information, in addition to the clinical data on oral diseases, will be of great help in the development and monitoring of dental health promotion strategies in the said province.

SUBJECTS AND METHOD

A questionnaire was designed by the community dentistry department for the students of 2nd year BDS students as part of their data collection assignment. It

was aimed to assess the oral health related knowledge, attitude and practices. As usual demographic profile was also collected. The study was conducted by 2nd year BDS students of Khyber College of Dentistry. The students were trained, how to collect data regarding questionnaire.

Different departments of the concerned college were visited by students to conduct the study. Demographic questions were related to name, age, gender, address, education and social status (monthly income of the head of house): Poor- up-to 4000 Rs per month, medium- up to 10,000 Rs. and Rich- above 10,000 Rs.

The questionnaire had specific questions regarding use of tooth brush, frequency of brushing, use of interdental aids, visit to the dentist and any systemic illness related to bad oral hygiene.

Data were analyzed by frequency and percentages using the SPSS version 11 for Windows.

RESULTS

Five hundred and thirty questionnaires were filled by the students of 2nd year BDS from the patients visiting KCD. 100% completely filled questionnaires were accepted for analysis in terms of gender, education and income level. Of the 530 respondents 48.6% were males and 51.4% females. Age of the patients ranged from 13-69 years with the mean age 36.75 years with standard deviation of 12.97. Among males 25.4% had higher secondary school education, 33.3% had matric, 23.5% had primary and the rest were illiterate. Among females 14.8% had higher secondary school education, 29.6% were matric, 20.3% had primary and the rest were illiterate. Regarding Socio-economic class, 23.5% were found in high class compared to 55.6% in middle class and the rest were in low class.

The educational status of low socio-economic group showed that 0% had higher secondary and matric, 14.3% had primary and the rest of 85.7% were illiterate. In Middle income group 13.5% possessed higher secondary school education, 45.7% were matric, 25.4% had primary and the rest were illiterate. The last high SES class showed 52% of higher secondary & above education, 24% had matric, 20% had primary and rest were found illiterate.

TABLE 1: QUESTIONNAIRE SAMPLE

1	Do you brush?
2	What is the frequency of Brushing?
3.	Do you use interdental devices?
4.	How often do you change your tooth brush?
5	Do you think that sweets are harmful for yours teeth?
6.	Do you clean your teeth after meal?
7.	Do you use Naswar (chewing tobacco)/betelnut/cigarette/sippari?
8	What do you do when you see black spot on your teeth?
9	How often do you visit a dentist for routine check up?
10	What is the reason for delaying your visit to dentist?
11	Have you ever watched any program regarding oral hygiene?
12	Have you ever received any demonstration regarding oral hygiene in community?
13	Do you think that your oral health is as important as your general health?
14	Do you suffer from any systemic illness?
15	Do you think that any systemic disease is related to oral hygiene?
16	Where do you get your water supply from?
17	Do you think that you have benefited from visit to the dentist?

Brushing habits when observed and compared in gender, education and socio-economic group were approximately same except difference was observed in middle income group. 88.5% male patients, cleaned their teeth after taking meal compared to 83.3% females. Tooth brushing habits were observed by majority of the respondents (85.6%). Males showed 88.5% and females 83.3%. Thrice a day tooth brushing was ob-

served by very small group of patients (2.3% F) followed by twice a day while majority brushed only once.

Regarding brushing frequency, majority of the patients brushed once a day. A toothbrush was changed by 30% male and 21.4% female patients after six months of its first use. Majority of patients thought that sweets were harmful for their teeth.

Beetlenut and tobacco chewing were not used by majority of the patients. Smoking was observed in 16% of males and 3.7% of females only. The habit of tobacco chewing was most frequent in low socio-economic males.

Regarding access to dental care, most of the patients ignored the black spot in teeth until it started pain. Comparatively more females (12.2%) patients visited dentist than males (6.6%) for preventive purpose. Majority of the patient's approached dentist when there was a problem. Only 37% of females and 11.3% of males did not visit dentist because of low Socio-economic status.

People falling in better socio-economic class showed better oral health than those who were in low socio-economic class. Majority of the patients (M=41.5% and F=45.2%) were in the belief that there was no relationship of oral health with systemic diseases.

DISCUSSION

This cross-sectional survey was carried out by second year students of Khyber College of Dentistry, Peshawar- Pakistan. The sampling technique used in this study was convenient sample which had its limitations. This study showed that those people who had higher income, were found better educated.

TABLE 2: STATISTICS OF PATIENTS

Number of subjects = 530		Mean Age =36.7± 12.9		Range = 13-6years	
		HSSC+	Matric	Primary	Illiterate
Males n (%) = 260 (48.6)		25.4%	33.3%	23.5%	17.6%
Females n (%) = 370 (51.4)		14.8%	29.6%	20.3%	35.2%
Poor n (%) = 105(19.8%)		—	—	14.3%	85.7%
Medium n (%) = 295(55.6%)		13.5%	45.7%	25.4%	15.2%
Rich n (%) = 125(23.5%)		52%	24%	20%	4%
HSSC+= F.Sc and above	Poor ≤ Rs 4000				
Medium Rs 4000-10,000	Rich ≥ Rs.10,000 +				

TABLE 3: TOOTH-BRUSHING RELATED KNOWLEDGE AND PRACTICES

Variable	Gender		Education		Socio-economic status				
	M	F	HSSC+	Matric	Prim	Illiterate	P	M	R
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
	48.6	51.4	19	33	21	27	19.8	55.5	23.6
Do you brush									
Yes	88.4	83.3	19.7	21.9	36.2	21.9	11.3	50.9	23.5
Brushing frequency									
Once	94	80	14.1	28.3	16	15	11.9	55.4	17.3
Twice	6	17.7	4.7	2.8	2.8	0.1	—	3.2	9.7
Thrice	—	2.3	—	—	—	0.1	—	5.5	1
Use of interdental devices									
No	20	31.1	5.6	1.8	2.8	9.4	5.2	18.4	3.9
Sometimes	80	68.9	11.3	15	14.1	10.3	13.1	31.5	26.3
Regularly									
Do you change your toothbrush									
<2 months	30	7.1	5.6	5.6	1.8	1.8		7.2	10.8
2-6 months	22.5	50	7.5	13.2	7.5	0		20.4	15.6
>6 months	30	21.4	5.6	8.4	3.7	0.9		21.6	3.6
When bristles distorted	17.5	21.4	5.9	3.7	2.8	7.5	4.8	13.2	1.2
Do you think sweet are harmful for teeth									
Yes	89.7	90.3	19.8	30.1	17.9	17.9	11.7	52.9	24..5
Do you brush after taking meal									
Yes	95.5	95.5	19.8	27.3	16.9	16.9	12	57.1	25..2

M= Males F=Females HSSC+=12+ class Prim=Primary P=Poor M=Middle R=Rich

TABLE 4: FREQUENCY OF HARMFUL HABITS

Variables	Gender		Education		SES				
	Males	Females	HSSC+	Matric	Primary	Illiterate	Poor	Medium	Rich
	32.8%	12/9%							
Do you use Paan	1.8	1.8	—	0.9	0.9	0.9	0.9	1.8	1.8
Naswar	14.1	3.7	—	2.8	4.7	10.3	12.2	5.6	—
Sippiari	0.9	3.7	—	—	1.8	3.7	2.8	2.8	—
Smoking	16	3.7	4.7	6.6	3.7	4.7	3.7	11.3	4.7

The patient's response to tooth brushing related behavior was associated with better education and better socioeconomic status. Brushing frequency increased when socioeconomic status improved which was also seen in other study results.¹⁰ The results of this study also suggest that twice a day brushing habits was observed more in high socioeconomic class patients compared to low socioeconomic class. While once a day frequency of brushing was observed in Middle socio-economic class. These results are in line with results presented by Ansari J.¹¹

According to the traditional approach to health education using the KAP model, the knowledge acquired by the subject generates attitudes that in turn give rise to changes in practice.⁶ In the context of oral health, however much knowledge the subject already has about healthcare and associated preventive measures, the better positive attitudes can always be achieved,⁸ and these will generate healthier habits (eating fewer sweets, brushing the teeth daily, using mouthwashes and fluoridated toothpaste). However, average "attitude" score and average "practice" score

TABLE 5: ORAL HEALTH RELATED KNOWLEDGE, ATTITUDE AND PRACTICES

Variables	Gender		Education				Income		
	M 32.8%	F 12/9%	Higher+	Matric	Prim	Illiterate	Poor	Medium	Rich
See black spot on teeth. What do you do?									
Ignore it	19.8	16.9	3.7	8.4	6.6	179	11.3	19.8	5.6
Visit dentist	6.6	12.2	6.6	7.5	3.7	—	—	6.6	12.3
When pain start	22.6	20.7	9.4	15	10.3	9.4	8.4	28.3	6.6
About Routine dental checkup									
Once a year	9.4	10.3	5.6	6.6	4.7	1.8	0.9	7.5	11.3
Twice a year	3.7	10.3	5.6	3.7	3.7	0.9	0.9	4.7	8.4
When problem arises	34.9	30.1	7.5	20.7	13.2	24.5	17.9	43.3	3.7
Reason for delaying visit to dentist									
Poverty	11.3	3.7	—	—	4.7	10.3	10.3	4.7	—
Busy routine	18.8	25.5	12.3	12.3	10.3	9.4	4.7	24.5	15.1
Careless attitude	17.9	14.1	5.6	16	6.6	3.7	1.8	22.6	7.5
Anxiety	—	28	—	—	—	2.8	2.8	—	—
Oral hygiene status									
Poor	14.1	16	3.7	5.6	3.7	17.9	16	9.4	4.7
Fair	23.5	22.6	9.4	14.1	15.1	6.6	1.8	33	11.3
Good	2.8	7.5	3.7	3.7	2.8	—	—	1.8	8.4
Do you think Oral health as important as general health									
Yes	22.6	33.9	11.3	11.3	19.8	14.1	4.7	29.2	22.6
Do you think Oral health has relationship with Systemic illness									
Yes	3.7	5.6	3.7	—	2.8	2.8	0.9	3.7	4.7
No	41.5	45.2	15.1	30.2	18.8	22.6	16.9	50.9	18.8

were both higher in subjects with better education. Although psychologists and health educators have maintained the KAP model for many years, in recent years it has become increasingly clear that there is no direct relationship between knowledge, attitudes and practice.^{8,9} This lack of direct relationship is supported by the results of the present study. Multiple regression analysis to identify factors affecting oral hygiene (i.e. extent of plaque) indicated significant effects not only of knowledge and attitude, but also of mother's educational level and urban or rural habitat: a higher level of maternal education, and residence in an urban environment, were associated with better oral hygiene. These results are in line with previous reports.^{4,8,9,12} Different authors have explained effects of this type in terms of inequality of access to oral healthcare services.^{8,9} If the knowledge-attitude-practice relationship were a direct relation, introduction of the variable attitude would lead to excellent fit, and the attitude and knowledge would be correlated. In fact, however, the results of this study show that attitude has an effect in its own right, such that subjects with

the same knowledge and more positive attitudes have healthier habits. The principal reason put forward to explain phenomena of this type is that subjects can develop mechanisms of selective perception and retention of information, such that they do not readily accept those aspects that they might at first reject.⁸ This would explain why, with the same degree of knowledge, different attitudes are generated in subjects from different environments and with different beliefs and different social, educational and economic levels. These sociodemographic factors act on the subject, modulating the information perceived and retained.

In this way, once the model has been adjusted for knowledge and attitudes, the effect of socioeconomic and cultural level on hygiene is probably attributable to two causes. First, there is a residual effect of confusion that cannot be ignored,⁸ due to defects in the classification arising in the establishment of the variables knowledge and attitude: these variables in all probability do not classify subjects perfectly. The observed

effects on oral hygiene of mother's educational level and habitat (urban or rural) are probably residual effects. In addition, we have seen² that the concept of attitude as direct cause of practice is not always valid, since some changes in attitude are not followed by changes in behavioural patterns: attitude is only one factor determining behaviour. Thus a subject with a highly positive attitude to tooth brushing, but with constraints that hinder daily brushing (for example, the child does not have a toothbrush, or no-one else in the family brushes their teeth), may not show straightforward translation of attitude to practice. The present study shows that an increase in knowledge about risk factors for oral disease is important in oral health campaigns that aim to promote healthy habits; however, the efficacy of these campaigns will be limited, if we do not take into account key determinants of attitude and of putting into practice of these healthy habits (economic status, family and social environment, educational level, etc.) in the population in which we are trying to change behaviour.

This study suggests that for good oral health of the community, literacy ratio should be improved. Health Education and Promotion programs of the community should be carried out.

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